SYSTEM FOR COMBINING RECORDED APPLICATION STATE WITH APPLICATION STREAMING INTERACTIVE VIDEO OUTPUT

RELATED APPLICATION

This application is a continuation of Ser. No. 11/999,472 filed on Dec. 5, 2007, which is assigned to the assignee of the present application which is also entitled "System for Combining Recorded Application State with Application Streaming Interactive Video Output" and which is incorporated herein by reference.

TECHNICAL FIELD

The present disclosure relates generally to the field of data processing systems that improve a users' ability to manipulate and access audio and video media.

BACKGROUND

Recorded audio and motion picture media has been an aspect of society since the days of Thomas Edison. At the start of the 20th century there was wide distribution of recorded audio media (cylinders and records) and motion picture media (nickelodeons and movies), but both technologies were still in their infancy. In the late 1920s motion pictures were combined with audio on a mass-market basis, followed by color motion pictures with audio. Radio broadcasting gradually evolved into a largely advertising-supported form of broadcast mass-market audio media. When a television (TV) broadcast standard was established in the mid-1940s, television joined radio as a form of broadcast mass-market media bringing previously recorded or live motion pictures into the home.

By the middle of the 20th century, a large percentage of US homes had phonograph record players for playing recorded audio media, a radio to receive live broadcast audio, and a television set to play live broadcast audio/video (A/V) media Very often these 3 "media players" (record player, radio and TV) were combined into one cabinet sharing common speakers that became the "media center" for the home. Although the media choices were limited to the consumer, the media "ecosystem" was quite stable. Most consumers knew how to use the "media players" and were able to enjoy the full extent of their capabilities. At the same time, the publishers of the media (largely the motion picture and televisions studios, and the music companies) were able to distribute their media both to theaters and to the home without suffering from widespread piracy or "second sales", i.e., the resale of used media. Typically publishers do not derive revenue from second sales, and as such, it reduces revenue that publishers might otherwise derive from the buyer of used media for new sales. Although there certainly were used records sold during the middle of the 20th century, such sales did not have a large impact on record publishers because, unlike a motion picture or video program—which is typically watched once or only a few times by an adult—a music track may be listened to hundreds or even thousands of times. So, music media is far less "perishable" (i.e., it has lasting value to an adult consumer) than motion picture/video media. Once a record was purchased, if the consumer liked the music, the consumer was likely to keep it a long time.

From the middle of the 20th century through the present day, the media ecosystem has undergone a series of radical changes, both to the benefit and the detriment of consumers and publishers. With the widespread introduction of audio recorders, especially cassette tapes with high-quality stereo sound, there certainly was a higher degree of consumer convenience. But it also marked the beginning of what is now a widespread practice with consumer media piracy. Certainly, many consumers used the cassette tapes for taping their own records purely for convenience, but increasingly consumers (e.g., students in a dormitory with ready access to each others' record collections) would make pirated copies. Also, consumers would tape music played over the radio rather than buying a record or tape from the publisher.

The advent of the consumer VCR led to even more consumer convenience, since now a VCR could be set to record a TV show which could be watched at a later time, and it also led to the creation of the video rental business, where movies as well as TV programming could be accessed on an "on demand" basis. The rapid development of mass-market home media devices since the mid-1980s has led to an unprecedented level of choice and convenience for the consumer, and also has led to a rapid expansion of the media publishing market.

Today, consumers are faced with a plethora of media choices as well as a plethora of media devices, many of which are tied to particular forms of media or particular publishers. An avid consumer of media may have a stack of devices connected to TVs and computers in various rooms of the house, resulting in a "rat's nest" of cables to one or more TV sets and/or personal computers (PCs) as well as a group of remote controls. (In the context of the present application, the term "personal computer" or "PC" refers to any sort of computer suitable for us in the home or office, including a desktop, a Macintosh® or other non-Windows computers, Windows-compatible devices, UNIX variations, laptops, etc.) These devices may include a video game console, VCR, DVD player, audio surround-sound processor/amplifier, satellite set-top box, cable TV set-top box, etc. And, for an avid consumer, there may be multiple similar-function devices because of compatibility issues. For example, a consumer may own both a HD-DVD and a Blu-ray DVD player, or both a Microsoft Xbox® and a Sony Playstation® video game system. Indeed, because of incompatibility of some games across versions of game consoles, the consumer may own both an XBox and a later version, such as an Xbox 360®, Frequently, consumers are befuddled as to which video input and which remote to use. Even after a disc is placed into the correct player (e.g., DVD, HD-DVD, Blu-ray, Xbox or Playstation), the video and audio input is selected for that the device, and the correct remote control is found, the consumer is still faced with technical challenges. For example, in the case of a wide-screen DVD, the user may need to first determine and then set the correct aspect ratio on his TV or monitor screen (e.g., 4:3, Full, Zoom, Wide Zoom, Cinema Wide, etc.). Similarly, the user may need to first determine and then set the correct audio surround sound system format (e.g., AC-3, Dolby Digital, DTS, etc.). Often times, the consumer is unaware that they may not be enjoying the media content to the full capability of their television or audio system (e.g., watching a movie squashed at the wrong aspect ratio, or listening to audio in stereo rather than in surround sound).

Increasingly, Internet-based media devices have been added to the stack of devices. Audio devices like the Sonos® Digital Music system stream audio directly from the Internet. Likewise, devices like the Slingbox™ entertainment player record video and stream it through a home network or out through the Internet where it can be watched remotely on